

5      **Plant-derived peptides harboring water-cleaning and antimicrobial activities**

10     The present application claims a priority based on international patent application  
PCT/03/00568. The content of said priority application is hereby incorporated by  
reference.

Field of the invention

15     The present invention relates to a family of proteins which may be used for  
different purposes such as coagulation agents for water treatment or as  
antimicrobial agents.

State of the art

20     A protein corresponding to the above-cited definition, called FLO, is disclosed in  
PCT patent application WO 03/008441 A2 (OPTIMA ENVIRONNEMENT S.A.).

Summary of the invention

25     The present invention concerns derivatives of FLO which, surprisingly, show  
similar or higher coagulating or antimicrobial activities than FLO.  
The inventors have also unexpectedly found that some of those derivatives may  
show either a coagulating or an antimicrobial activity.  
Finally, it was found that other FLO derivatives had neither a coagulating nor an  
antimicrobial activity.

5    Detailed description of the invention

Table 1 summarizes the derivatives of FLO representing the object of the invention.

The following terms are used :

+++ higher activity than FLO

10    ++ equivalent activity of FLO

+ lower activity than FLO

- no activity observed

15    More information regarding the detailed description of the invention (e.g. material & methods, experimental results) can be found in international patent application PCT/CH03/00568 which is incorporated by reference.

**Table 1**

		Coag.	antibt.
<b>Flo</b>			
QGPGRQPDFQRCGQQQLRNISPPQRCPSLRQAVQLTHQQQQGVGPQQVRQMYRVASNIPST		++	++
<b>predicted alpha helices</b>			
XXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXX	
<b>Positive charge</b>			
+	+	+	+
<b>Glutamine (Gln)</b>			
Q Q Q	QQ	Q	Q Q
QQQ	Q	QQ	Q
<b>Hydrophobic</b>			
F C L I	C L AV L	V V M	VA I
<b>Gln/Hydrophobic</b>			
Q Q FQ C QQL I	Q C L QAVQL	QQQ Q V	QQV QM
		V A	I
<b>P1</b>			
QGPGRQPDFQRCGQQQLRNISPP		-	+-
<b>P2</b>	PQRCP SLRQAVQLTHQQQQGV	++	+
<b>P3</b>	GQVGPQQVRQMYRVASNIPST	-	-
<b>P2.1</b>	RCGQQQLRNISPPQRCP SLRQAVQLTHQQQQQ	-	+++
<b>P2a</b>	PQRCP SLRQAV	-	-
<b>P2b</b>	SLRQAVQLTHQ	-	-
<b>P2c</b>	AVQLTHQQQQGV	-	-
<b>P2ab</b>	PQRCP SLRQAVQLTHQ	++	+-
<b>P2GR40</b>	PQRCP SLRQAVQLTHQQQRQV	+++	++